

Application Serial No. 10/649,212  
Reply to Office Action of September 27, 2007

PATENT  
Docket: CU-5984

### REMARKS

In the Office Action, dated September 27, 2007, the Examiner states that Claims 1-67 are pending, Claims 1-50 are rejected and Claims 51-67 are withdrawn. By the present Amendment, Applicant amends the abstract, and the claims.

In the Office Action, the declaration is objected to for being defective. The Applicant herewith submits another executed declaration.

In the Office Action, the abstract is objected to for various informalities. The Applicant herewith submits an amended abstract to correct the informalities.

In the Office Action, Claims 1-4, 6, 7, 10-13, 15, 16, 19-21, 24, 25, 28-43 and 45-48 are rejected under 35 U.S.C. §102(e) as being anticipated by Kobayahi (US 2004/0043334). The Applicant respectfully disagrees with and traverses this rejection.

As the Examiner notes, the present application and US 2004/0043334 share a common inventor, and it is possible to overcome the rejection with a showing under 37 CFR 1.131 or 1.132. However, the Applicant does not consider US 2004/0043334 to be a properly cited reference. The filing date of this reference is April 17, 2003, while the priority date of the present application is August 28, 2002, which precedes the US filing date of the reference.

In the Office Action, Claims 1-4, 6 and 7 are rejected under 35 U.S.C. §102(e) as being anticipated by Watanabe (US 2003/023286). As mentioned above, the Applicant considers this to also be an improper prior art reference since the priority date of the present application precedes the filing date of June 17, 2003 of this reference.

In the Office Action, Claims 1-50 are rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2000-249821(Kobayashi) in view of Watanabe (2003/232286).

With regards to Claims 1-19, Kobayashi (JP 2000-249821, hereinafter Kobayashi JP) relates to a production of a pattern formed body using two substrates: a photocatalyst-containing layer which contains a photocatalyst, and a substrate for a pattern formed body with at least a characteristic varying layer whose characteristics are varied by the action of the photocatalyst contained in the photocatalyst-containing layer. In Kobayashi JP, a pattern formed body is produced by forming a characteristic varied pattern, by the action of the photocatalyst

Application Serial No. 10/649,212  
Reply to Office Action of September 27, 2007

PATENT  
Docket: CU-5984

contained in the photocatalyst-containing layer of the photocatalyst-containing layer side substrate, on the characteristic varying layer surface of the substrate for a pattern formed body which does not comprise the photocatalyst-containing layer.

In contrast, the methods for manufacturing a conductive pattern forming body recited in Claims 1 to 19 of the present application relates to a conductive pattern forming body obtained by using only one substrate of a pattern forming body substrate which comprises a photocatalyst containing layer containing a photocatalyst. More specifically, in Claims 1 to 19, the conductive pattern forming body is obtained by using a conductive pattern forming body is obtained by using a wettability pattern formed, by the action of the photocatalyst contained in the photocatalyst containing layer, on the same substrate (pattern forming body substrate) to form a conductive pattern.

Accordingly, Kobayashi JP is different from Claims 1 to 19 of the present application in the following aspect. In Kobayashi JP, two substrates: a substrate with a layer containing a photocatalyst, and a substrate with a surface characteristic thereof varied by the action of the photocatalyst are used. In the present application, only one substrate in which a layer containing a photocatalyst and a portion with characteristics thereof changed by the action of the photocatalyst integrated is used. By forming a conductive pattern using a single substrate, the inventions of Claims 1 to 19 can achieve their advantageous effects. That is, they are capable of forming a highly precise conductive pattern in a simple process with high accuracy and of forming a highly precise conductive pattern at a low cost.

Therefore, even one of ordinary skill in the art cannot easily achieve the inventions of Claims 1 to 19 by incorporating Watanabe into Kobayashi JP in which using of the two substrates is a fundamental requirement.

As mentioned, Kobayashi JP uses the two substrates of a substrate with a layer containing a photocatalyst, and a substrate with a surface characteristic thereof varied by the action of the photocatalyst.

In contrast, the methods for manufacturing a conductive pattern forming body recited in Claims 20 to 28 of the present application relates to a conductive pattern forming body obtained by using only one substrate of a pattern forming body substrate which comprises a photocatalyst treatment layer containing a photocatalyst. More specifically, in Claims 20 to 28, the conductive pattern forming

Application Serial No. 10/649,212  
Reply to Office Action of September 27, 2007

PATENT  
Docket: CU-5984

body is obtained by using a decomposition removal pattern formed, by the action of the photocatalyst contained in the photocatalyst treatment layer, on the same substrate (pattern forming body substrate) to form a conductive pattern.

Accordingly, Claims 20 to 28 of the present application are different from Kobayashi JP in using only one substrate in which a photocatalyst treatment layer containing a photocatalyst and a decomposition removal layer decomposed and removed by the action of the photocatalyst are integrated. By forming a conductive pattern using a single substrate, the inventions of Claims 20 to 28 can achieve their advantageous effects. That is, they are capable of forming a highly precise conductive pattern in a simple process with a high accuracy and of forming a highly precise conductive pattern at a low cost.

Therefore, even one of ordinary skill in the art cannot easily achieve the inventions of Claims 20 to 28 by incorporating Watanabe into Kobayashi JP in which using of the two substrates is a fundamental requirement. In Kobayashi JP, to form a characteristic varied pattern, disposal of the following two substrates in a manner that the photocatalyst-containing layer and the characteristic varying layer are in contact is an essential requirement: a photocatalyst-containing layer side substrate with a photocatalyst-containing layer which contains a photocatalyst, and a substrate for a pattern formed body with at least a characteristic varying layer whose characteristics are varied by the action of the photocatalyst contained in the photocatalyst-containing layer.

In contrast, the method for manufacturing a conductive pattern forming body recited in an amended Claim 29 has a common aspect to Kobayashi JP in that two substrates of a photocatalyst-containing layer side substrate (equivalent to the photocatalyst treatment layer side substrate of the present invention) with a photocatalyst-containing layer (equivalent to the photocatalyst treatment layer) which contains a photocatalyst, and a substrate for a pattern formed body with at least a characteristic varying layer (equivalent to the property variable layer) whose characteristics are varied by the action of the photocatalyst contained in the photocatalyst-containing layer. In amended Claim 29, however, the photocatalyst-containing layer and the characteristic varying layer are placed in such a manner with a gap of 200  $\mu\text{m}$  or less that they are not in contact with each other when the characteristic varied pattern (equivalent to property varied pattern) is formed.

Application Serial No. 10/649,212  
Reply to Office Action of September 27, 2007

PATENT  
Docket: CU-5984

This very feature of amended Claim 29, placing the photocatalyst treatment layer and the property variable layer with a clearance of 200  $\mu\text{m}$  or less so that the do not contact, allows the present invention to achieve its advantageous effect. That is, upon the property varied pattern formation, to prevent desorption of the active oxygen species generated from the action of the photocatalyst contained in the photocatalyst treatment layer from becoming difficult and to prevent the rate of property change of the property variable layer from becoming lowered (lines 9 to 21 at page 100 of the specification).

Accordingly, even one of ordinary skill in the art cannot easily achieve the invention of amended Claim 29, by incorporating Watanabe into Kobayashi JP In which, upon the characteristic varied pattern formation, a disposal of the photocatalyst-containing layer side substrate and the substrate for a pattern formed body in such a manner to make the photocatalyst-containing layer in contact with the characteristic varying layer is a fundamental requirement. The same also applies to Claims 30 to 50 which are dependent claims on Claim 29.

Therefore, Claims 29 to 50 of the present application do not fall under 35 U.S.C. 103(a).

In the Office Action, Claims 1, 11, 20 and 29 are provisionally rejected as obviousness-type double patenting over Claims 1 and 2 of co-pending Application No. 10/417,516 (US 2004/0043334). The Applicant respectfully disagrees with this rejection.

A method of manufacturing for a conductive pattern substrate disclosed in Kobayashi (US 2004/0043334, hereinafter Kobayashi) is different from the inventions of Claims 1, 11 and 20 recited in the present application in that the use of a photocatalyst substrate with a photocatalyst layer containing a photocatalyst and a wettability changeable substrate having a wettability changeable layer with the wettability changed by the action of the photocatalyst is an essential requirement. By forming a conductive pattern using a single substrate, the inventions of Claims 1, 11 and 20 can achieve their advantageous effects that they are capable of forming a highly precise conductive pattern in a simple process with high accuracy and of forming a highly precise conductive pattern at a low cost. Therefore, even one ordinary skill in the art cannot easily achieve the inventions of Claims 1, 11 and 20 from Kobayashi in which using of the two substrates is a fundamental requirement.

Application Serial No. 10/649,212  
Reply to Office Action of September 27, 2007

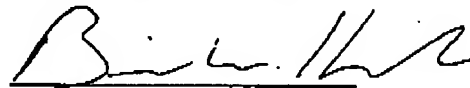
PATENT  
Docket: CU-5984

Further, Claim 29 is different from Kobayashi in that a metal colloid is used to form a conductive pattern. Using of the metal colloid for conductive pattern formation realizes the easy formation of a highly precise conductive pattern in a simple process. The "easy formation...in a simple process" here denotes that using of the metal colloid enables application of the metal colloid in single process, very quick dry of the applied colloid, application on-demand basis, and to reduce the adverse effect on the substrate since the applied metal colloid can be solidifies at low temperature. All of these effects are original to the present application and derived from the fact of using the metal colloid. Accordingly, Claim 29 is not obvious over Kobayashi even for one of ordinary skill in the art.

Therefore, Claims 1, 11, 20 and 29 should not rejected under judicially created doctrine of obviousness-type double patenting.

In light of the foregoing response, all the outstanding objections and rejections are considered overcome. Applicant respectfully submits that this application should now be in condition for allowance and respectfully requests favorable consideration.

Respectfully submitted,



November 12, 2007

Date

Attorney for Applicant  
Brian W. Hameder  
c/o Ladas & Parry LLP  
224 South Michigan Avenue  
Chicago, Illinois 60604  
(312) 427-1300  
Reg. No. 45613